Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A rotary electric machine comprising:

a flux-concentrating rotor comprising permanent magnets disposed between non-magnetically interconnected pole pieces; and

a stator comprising

teeth having a free end deprived of pole swellings and

a concentrated winding.

2. (Previously Presented) A machine according to claim 1, wherein the pole pieces and the magnets are configured so as to minimize the difference $L_d - L_q$ where L_d is inductance on a forward axis and L_q is inductance on a quadrature axis.

3. (Previously Presented) A machine according to claim 1, wherein the teeth are of non-constant width, increasing in width with increasing distance from the rotor starting from a determined distance from their free ends.

4. (Previously Presented) A machine according to claim 1, wherein the magnets are wedge-shaped when observed along an axis of rotation of the rotor, of width that tapers going away from the axis of rotation of the rotor.

5. (Previously Presented) A machine according to claim 1, wherein the pole pieces have cutouts and are engaged via said cutouts on splines on a shaft of the rotor.

6. (Original) A machine according to claim 5, wherein said splines are formed integrally with a central portion of the shaft.

7. (Previously Presented) A machine according to claim 6, wherein the splines and the central portion of the shaft are made of a non-magnetic material.

8. (Previously Presented) A machine according to claim 5, wherein the pole pieces have radially inner edges and gaps are left between said radially inner edges and the shaft.

9. (Previously Presented) A machine according to claim 5, wherein each spline presents a cross section having a profile having opposite sides with inclined portions at an angle to a radius passing through a middle of the spline.

10. (Previously Presented) A machine according to claim 9, wherein the angle is about 70°.

11. (Original) A machine according to claim 9, wherein said profile includes rounded portions.

12. (Original) A machine according to claim 11, wherein the rounded portions have different radii of curvature.

13. (Previously Presented) A machine according to claim 1, wherein each pole piece has, on a side facing towards the stator, a face that is non circular around an axis of rotation of the rotor and convex towards the stator.

14. (Previously Presented) A machine according to claim 1, wherein the magnets have edges that are adjacent to the stator and the rotor has at least one, at one axial end, check-plate of non-magnetic material, with a periphery of the check-plate being set back from said edges.

15. (Previously Presented) A machine according to claim 1, the stator having n_{teeth} teeth, the rotor having n_{pairs} pairs of poles, and the current having n_{phases} phases, wherein the number of teeth n_{teeth} satisfies $n_{teeth} = n_{pairs} * n_{phases}$.

16. (Previously Presented) A machine according to claim 1, wherein the rotor is configured to rotate at a speed lying in the range 1000 rpm to 10,000 rpm.

17. (Previously Presented) A machine according to claim 1, wherein the machine has an outside dimension in the radial direction that lies in the range 50 mm to 1 m.

18. (Previously Presented) A machine according to claim 1, wherein the stator has individual coils each removably disposed on one tooth.

19. (Previously Presented) A machine according to claim 1, wherein the stator has at least one individual coil comprising a plurality of superposed turns of a substantially flat bundle of insulated wires wound around a winding axis, the cross-section of the bundle having a long dimension that extends substantially perpendicularly to the winding axis.

20. (Original) A machine according to claim 19, wherein the wires are of circular section, having a diameter lying in the range 0.3 mm to 2.5 mm.

21. (Previously Presented) A machine according to claim 19, wherein an inside section of the coil perpendicular to the winding axis is substantially rectangular.

22. (Previously Presented) A machine according to claim 19, wherein an inside section of the coil perpendicular to the winding axis is larger on one side than on the other, and the stator comprises a tooth presenting a complementary profile.

23. (Previously Presented) A machine according to claim 19, wherein the wires are curved to form hooks at the electrical connection ends of the coil.

24. (Original) A machine according to claim 23, wherein the hooks are directed towards a midplane of the coil, perpendicular to the winding axis.

25. (Previously Presented) A machine according to claim 19, wherein the coil has, perpendicular to the winding axis, an inside section longer than an axial dimension of the tooth on which the coil is engaged, and a detector suitable for delivering a signal representative of rotation of the rotor being engaged in a gap formed between an inside face of the coil and a face of the tooth.

26. (Previously Presented) A machine according to claim 1, having at least one detector comprising a magnetic field sensor mounted on the stator in such a manner as to detect the magnetic field of the magnets of the rotor from a location that overlaps a peripheral region of the rotor when the machine is observed on an axis of rotation of the rotor.

27. (Original) A machine according to claim 26, for n-phase AC, the machine having n detectors mounted on consecutive teeth close to an opening in a case of the machine.

28. (Previously Presented) A machine according to claim 26, wherein the at least one detector is fixed to the stator so as to extend along a radial axis of a tooth.

29. (Previously Presented) A machine according to claim 26, wherein the at least one detector further comprises a temperature sensor.

30. (Previously Presented) A machine according to claim 1, wherein the rotor has at least one cheek-plate of non-magnetic material, with a radially outer edge of said cheek-plate being set back from a radially outer edge of the magnets and the pole pieces, so as to leave an annular region in which a magnetic field of the magnets can be read by at least one detector.

31. (Previously Presented) A machine according to claim 1, having individual coils with connection ends formed by respective flat bundles of wires curved to form respective hook shapes, said connection ends being soldered to locally stripped portions of sheathed electric cables.

32. (Previously Presented) A machine according to claim 1, wherein the stator comprises an assembly of sectors defining air-gaps intersecting the teeth at half-width.

33. (Previously Presented) A machine according to claim 32, wherein the sectors have co-operating portions in relief on docking sides.

34. (Previously Presented) A machine according to claim 1, wherein the stator comprises a magnetic circuit inserted by force into a cylindrical case.

35. (Original) A machine according to claim 1, constituting a synchronous motor.

36. (Previously Presented) A machine according to claim 7, wherein the non-magnetic material is aluminum.

37. (Previously Presented) A machine according to claim 1, wherein the rotor is outside the stator.

38. (Previously Presented) A machine according to claim 1, wherein the rotor is inside the stator.

39. (Previously Presented) A rotary electric machine comprising:

a flux concentrating rotor; and

a stator comprising:

an annular portion;

teeth having an end connected to said annular portion, each tooth comprising two non-parallel opposite planar faces; and

a concentrated winding.

40. (Previously Presented) A rotary electric machine comprising:

a flux concentrating rotor comprising permanent magnets disposed between non-magnetically interconnected pole pieces; and

a stator comprising:

a concentrated winding; and

at least one detector comprising a magnetic field sensor to detect a magnetic field of the magnets of the rotor from a location that overlaps a peripheral region of the rotor when the machine is observed on an axis of rotation of the rotor.

41. (Previously Presented) A rotary electric machine comprising:

a flux concentrating rotor; and

a stator comprising a concentrated winding, said concentrated winding comprising at least one individual coil comprising a plurality of superposed turns of a substantially flat bundle of insulated wires wound around a winding axis, in such a manner that a cross-section of the bundle has a long dimension that extends substantially perpendicularly to the winding axis.

42. (Previously Presented) A rotary electric machine comprising:

a flux concentrating rotor comprising permanent magnets disposed between non-magnetically interconnected pole pieces; and

a stator comprising a concentrated winding, said concentrated winding comprising at least one coil defining with a corresponding tooth a gap, a detector for delivering a signal representative of rotation of a the rotor being engaged in said gap.

43. (Previously Presented) A machine according to claim 39, wherein the rotor comprises permanent magnets and pole pieces disposed between the permanent magnets, the permanent magnets having magnetic poles facing the pole pieces.

44. (Previously Presented) A machine according to claim 39, wherein the rotor comprises permanent magnets disposed between non-magnetically interconnected pole pieces.

45. (New) A machine according to claim 1, wherein the pole pieces are connected to a central portion of the rotor by complementary shapes.